

# NICHOLAS FREEMAN MEHRLE

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## EDUCATION

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**Johns Hopkins University** **Baltimore, MD**  
M.A. Physics and Astronomy May 2016  
B.S. Physics May 2016  
– **Additional Majors:** Mathematics & Applied Mathematics and Statistics  
– **GPA:** 3.91/4.0

## EMPLOYMENT & RESEARCH

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**Optiver US LLC** **Chicago, IL**  
Derivatives Trader July 2016 - Present  
– Worked as high frequency options market maker  
– Performed time series analysis of market data

**Johns Hopkins University** **Baltimore, MD**  
Research Assistant - Department of Physics and Astronomy May 2013 - May 2016  
– Designed and constructed variable delay polarization modulator for microwave band telescope  
– Wrote master's thesis on telescope design and physics of Cosmic Microwave Background

**CERN** **Geneva, Switzerland**  
Research Assistant - CMS Experiment Jan - May 2015  
– Performed statistical analysis to discriminate production methods of Higgs boson

**Johns Hopkins University Applied Physics Lab** **Laurel, MD**  
Technical Intern - Applied Concepts and Technology Group May - Aug 2014  
– Developed and tested of feature estimation algorithms  
– Improved graphical UI of large scale simulation environment

**Johns Hopkins University** **Baltimore, MD**  
Teaching Assistant - Department of Mathematics Sept - Dec 2015  
– Taught recitation section for Differential Equations

## PAPERS

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- *Design of the Cosmology Large Angular Scale Surveyor (CLASS) Polarization Modulators*. Master's thesis. Advisor: Tobias Marriage.
- *CLASS: The Cosmology Large Angular Scale Surveyor*. With Thomas Essinger-Hileman et al. arXiv reference: 1408.4788.
- *The Cosmology Large Angular Scale Surveyor (CLASS): 38 GHz detector array of bolometric polarimeters*. With John W. Appel et al. arXiv reference: 1408.4789.

## MISCELLANEOUS

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**Programming:** Python, Java, JavaScript, C, C++, Matlab, Mathematica, R, HTML  
CSS,  $\text{\LaTeX}$ , VBA

**Organizations:** Phi Beta Kappa, Sigma Pi Sigma, Johns Hopkins Mock Trial, Wading Team

**Testing:** Physics GRE - 960/990 (91st percentile)